

Highway Maintenance Workers

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What They Do

Highway Maintenance Workers are vital to the safe construction and repair of our roads and highways. Working mainly for California's Department of Transportation (CalTrans) and local governments, they help maintain the thousands of miles of roads, airport runways, and other structures. These workers warn drivers of work or hazards that exist on the road ahead. They generally do this by standing in the roadway ahead of the construction or hazard and using flags or signs to slow or stop traffic. They communicate with other maintenance and flag workers using hand signals or radios. They also do a variety of tasks to maintain road surfaces, airports runways, bridges, tunnels, and adjacent areas.

Tasks

- ▶ Flag motorists to warn them of obstacles or repair work ahead.
- ▶ Set out signs and cones around work areas to divert traffic.
- ▶ Drive trucks or tractors with adjustable attachments to sweep debris from paved surfaces, mow grass and weeds, and remove snow and ice.
- ▶ Dump, spread, and tamp asphalt, using pneumatic tampers, to repair joints and patch broken pavement.
- ▶ Drive trucks to transport crews and equipment to work sites.
- ▶ Inspect, clean, and repair drainage systems, bridges, tunnels, and other structures.
- ▶ Haul and spread sand, gravel, and clay to fill washouts and repair road shoulders.
- ▶ Erect, install, or repair guardrails, road shoulders, berms, highway markers, warning signals, and highway lighting, using hand tools and power tools.
- ▶ Remove litter and debris from roadways, including debris from rock and mud slides.
- ▶ Clean and clear debris from culverts, catch basins, drop inlets, ditches, and other drain structures.

*Detailed descriptions of this occupation may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.*

Important Skills, Knowledge, and Abilities

- ▶ **Public Safety and Security** — Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.

Highway Maintenance Workers

- ▶ Mechanical — Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
- ▶ Building and Construction — Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.
- ▶ Equipment Maintenance — Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
- ▶ Equipment Selection — Determining the kind of tools and equipment needed to do a job.
- ▶ Speaking — Talking to others to convey information effectively.
- ▶ Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- ▶ Critical Thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- ▶ Static Strength — The ability to exert maximum muscle force to lift, push, pull, or carry objects.
- ▶ Manual Dexterity — The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.

Work Environment

Highway Maintenance Workers work outside day and night in all types of weather conditions. Workers are subject to sunburn, poison oak, and snake and insect bites. Their work is physically demanding and requires stamina, agility, and strength. Their working conditions are also hazardous because they are working directly in the road or on the side of the road where they are exposed to vehicular traffic. There is also the possibility of injury by working with and around heavy equipment. It is very common for workers to wear safety equipment such as safety shoes, glasses, gloves, ear plugs, hard hats, and life jackets.

Highway Maintenance Workers usually work a standard 40-hour workweek. However, some workers are often called on weekends and nights for emergency road work to repair damage caused by storms or floods. Also, heavily traveled roads may be repaired or resurfaced during the graveyard shift. Most Highway Maintenance Workers who hold union membership are members of the International Union of Operating Engineers (IUOE).

California's Job Outlook and Wages

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2004	Estimated Number of Workers 2014	Average Annual Openings	2006 Wage Range (per hour)
Highway Maintenance Workers				
47-4051	5,000	6,300	200	\$16.85 to \$24.34

Wages do not reflect self-employment.

Average annual openings include new jobs plus net replacements.

Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

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Trends

The demand for Highway Maintenance Workers is likely to increase at an above average pace over the next 10 years. With an expanding population, more traffic on the state's roads mean that more maintenance and repairs will be necessary. Additional new road construction will also be needed to keep pace with the growth in population.

Construction techniques generally change slowly. New machines, new materials, computerization of inventories and repair schedules, and new ways of location finding such as Global Positioning System (GPS) have helped modernize some aspects of highway maintenance, but many of the tools and techniques workers have used for decades remain largely unchanged.

Training/Requirements/Apprenticeships

A high school diploma, while desirable, is not required for this job, but completion of the eighth grade and some experience in the construction or maintenance field improves the chances of employment. The experience requirement may be for as short as six months or up to one year. A good driving record and a valid California driver's license are a must.

Jobs in government have promotional opportunities that are dependent upon meeting civil service requirements. Employment is contingent upon passing a pre-employment physical and drug test.

Recommended High School Course Work

Employers prefer applicants who have at least a high school diploma or equivalent. High school preparation should include courses in shop, basic mathematics, and English.

Where Do I Find the Job?

Heavy construction (roadway) companies are one of the largest employers. State and local governments also employ a sizeable number of Highway Maintenance Workers. Direct application to employers remains one of the most effective job search methods.

Use the *Search for Employers by Industry* feature on the *Career Center* page at www.labormarketinfo.edd.ca.gov to locate employers in your area. Search using keywords from the following construction industry name to get a list of private firms and their addresses:

- ▶ Employment Placement Agencies
- ▶ Professional Employer Organizations
- ▶ Highway, Street, and Bridge Construction
- ▶ Temporary Help Services

Search these **yellow page** headings for listings of private firms:

- ▶ Blasting Contractors
- ▶ Pipeline Contractors
- ▶ Parking & Highway Improvement Contractors
- ▶ Sewer Contractors
- ▶ Paving Contractors

Where Can The Job Lead?

Many workers are employed in state or local public works departments. As a worker's skill level increases, he or she is sometimes given greater responsibilities. Eventually, some workers are named crew leader with the responsibility of supervising a small crew. Sometimes, they are able to drive a truck or a piece of heavy equipment such as a loader, compactor, or paver.

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Other Sources of Information

California Department of Transportation (CalTrans)

www.dot.ca.gov

International Union of Operating Engineers

www.iuoe.org

America's Career InfoNet

www.acinet.org